

1 CLAIMS

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3 What is claimed is:

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5 1. A computer-implemented method of reducing graphical user
6 interface (GUI) noise comprising:

7 recording a first execution scenario for control of operation of an
8 application program having a GUI during a recording phase of operation of a
9 cognitive control framework system;

10 setting soft conditions for a search for the application program for the first
11 execution scenario;

12 playing back the application program according to the first execution
13 scenario during a playback phase of operation of the cognitive control framework
14 system;

15 updating the first execution scenario to form a second execution scenario
16 to reduce GUI noise conditions observed during playback, including updating
17 recorded images originally generated by the GUI during the recording phase and
18 updating coordinates for user input data;

19 setting stronger conditions for the search for use in subsequent
20 playbacks; and

21 playing back the application program according to the second execution
22 scenario with the stronger conditions for search.

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24 2. The method of claim 1, wherein the soft conditions comprise a first set
25 of bounds for differences in shapes of contours, text and image content, or
26 layout.

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28 3. The method of claim 2, where the stronger conditions comprise a
29 second set of bounds for differences in shapes of contours, text and image
30 content, or layout, the second set being different than the first set.

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32 4. The method of claim 1, wherein the user input data comprises mouse
33 selections.

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35 5. The method of claim 1, wherein GUI noise conditions comprise at least
36 one of changeable color schemes, highlighting of items, noise from video
37 sources, and anti-aliasing effects.

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39 6. The method of claim 1, wherein updating recorded images comprises
40 using playback images as recorded images for subsequent playbacks.

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42 7. An article comprising: a machine accessible medium containing
43 instructions, which when executed, result in reducing graphical user interface
44 (GUI) noise by

45 recording a first execution scenario for control of operation of an
46 application program having a GUI during a recording phase of operation of a
47 cognitive control framework system;

48 setting soft conditions for a search for the application program for the first
49 execution scenario;

50 playing back the application program according to the first execution
51 scenario during a playback phase of operation of the cognitive control framework
52 system;

53 updating the first execution scenario to form a second execution scenario
54 to reduce GUI noise conditions observed during playback, including updating
55 recorded images originally generated by the GUI during the recording phase and
56 updating coordinates for user input data;

57 setting stronger conditions for the search for use in subsequent
58 playbacks; and

59 playing back the application program according to the second execution
60 scenario with the stronger conditions for search.

62 8. The article of claim 7, wherein the soft conditions comprise a first set of
63 bounds for differences in shapes of contours, text and image content, or layout.

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65 9. The article of claim 8, where the stronger conditions comprise second
66 set of bounds for differences in shapes of contours, text and image content, or
67 layout, the second set being different than the first set.

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69 10. The article of claim 7, wherein the user input data comprises mouse
70 selections.

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72 11. The article of claim 7, wherein GUI noise conditions comprise at least
73 one of changeable color schemes, highlighting of items, noise from video
74 sources, and anti-aliasing effects.

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76 12. The article of claim 7, wherein instructions to update recorded images
77 comprise instructions to use playback images as recorded images for
78 subsequent playbacks.

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80 13. A method of automatically controlling execution of an application
81 program having a GUI to reduce GUI noise comprising:

82 capturing user input data and images displayed by the GUI during a
83 recording phase of execution of the application program;

84 analyzing the captured user input data and recorded images to generate a
85 first execution scenario during the recording phase;

86 setting soft conditions for a search for the application program for the first
87 execution scenario;

88 generating simulated user input data based on the first execution scenario
89 during a playback phase of execution of the application program and inputting
90 the simulated user input data to the application program;

91 performing image analysis on playback images displayed by the GUI as a
92 result of processing the simulated user input data during the playback phase and
93 the recorded images;

94 updating the first execution scenario to form a second execution scenario
95 to reduce GUI noise conditions observed during playback, including updating the
96 recorded images originally generated by the GUI during the recording phase and
97 updating coordinates for user input data;

98 setting stronger conditions for the search for use in subsequent
99 playbacks; and

100 playing back the application program according to the second execution
101 scenario with the stronger conditions for search.

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103 14. The method of claim 13, wherein the soft conditions comprise a first
104 set of bounds for differences in shapes of contours, text and image content, or
105 layout.

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107 15. The method of claim 14, where the stronger conditions comprise a
108 second set of bounds for differences in shapes of contours, text and image
109 content, or layout, the second set being different than the first set.

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111 16. The method of claim 14, wherein GUI noise conditions comprise at
112 least one of changeable color schemes, highlighting of items, noise from video
113 sources, and anti-aliasing effects.

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115 17. The method of claim 14, wherein updating recorded images
116 comprises using playback images as recorded images for subsequent
117 playbacks.

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119 18. An article comprising: a machine accessible medium containing
120 instructions, which when executed, result in automatically controlling execution of
121 an application program having a GUI to reduce GUI noise by

122 capturing user input data and images displayed by the GUI during a
123 recording phase of execution of the application program;
124 analyzing the captured user input data and recorded images to generate a
125 first execution scenario during the recording phase;
126 setting soft conditions for a search for the application program for the first
127 execution scenario;
128 generating simulated user input data based on the first execution scenario
129 during a playback phase of execution of the application program and inputting
130 the simulated user input data to the application program;
131 performing image analysis on playback images displayed by the GUI as a
132 result of processing the simulated user input data during the playback phase and
133 the recorded images;
134 updating the first execution scenario to form a second execution scenario
135 to reduce GUI noise conditions observed during playback, including updating the
136 recorded images originally generated by the GUI during the recording phase and
137 updating coordinates for user input data;
138 setting stronger conditions for the search for use in subsequent
139 playbacks; and
140 playing back the application program according to the second execution
141 scenario with the stronger conditions for search.

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143 19. The article of claim 18, wherein the soft conditions comprise a first set
144 of bounds for differences in shapes of contours, text and image content, or
145 layout.

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147 20. The article of claim 19, where the stronger conditions comprise a
148 second set of bounds for differences in shapes of contours, text and image
149 content, or layout, the second set being different than the first set.

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151 21. The article of claim 18, wherein GUI noise conditions comprise at
152 least one of changeable color schemes, highlighting of items, noise from video
153 sources, and anti-aliasing effects.
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155 22. The article of claim 18, wherein instructions to update recorded
156 images comprise instructions to use playback images as recorded images for
157 subsequent playbacks.
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